



UNITED STATES PATENT AND TRADEMARK OFFICE

45
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,009	07/31/2001	Vincent Michon	F264.312-24	4809

164 7590 05/06/2003
KINNEY & LANGE, P.A.
THE KINNEY & LANGE BUILDING
312 SOUTH THIRD STREET
MINNEAPOLIS, MN 55415-1002

EXAMINER

NGUYEN, KIM T

ART UNIT	PAPER NUMBER
----------	--------------

3713

DATE MAILED: 05/06/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Offic Action Summary	Application No.	Applicant(s)
	09/919,009	MICHON ET AL.
	Examiner Kim Nguyen	Art Unit 3713
<i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i>		
Period f r Reply		
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.		
<ul style="list-style-type: none"> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). 		
Status		
1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>21 June 2002</u> .		
2a) <input type="checkbox"/> This action is FINAL. 2b) <input checked="" type="checkbox"/> This action is non-final.		
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.		
Disposition of Claims		
4) <input checked="" type="checkbox"/> Claim(s) <u>14-90</u> is/are pending in the application.		
4a) Of the above claim(s) _____ is/are withdrawn from consideration.		
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.		
6) <input checked="" type="checkbox"/> Claim(s) <u>14-90</u> is/are rejected.		
7) <input type="checkbox"/> Claim(s) _____ is/are objected to.		
8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.		
Application Papers		
9) <input checked="" type="checkbox"/> The specification is objected to by the Examiner.		
10) <input type="checkbox"/> The drawing(s) filed on _____ is/are: a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner.		
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).		
11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner.		
If approved, corrected drawings are required in reply to this Office action.		
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.		
Priority under 35 U.S.C. §§ 119 and 120		
13) <input checked="" type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).		
a) <input checked="" type="checkbox"/> All b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of:		
1. <input type="checkbox"/> Certified copies of the priority documents have been received.		
2. <input checked="" type="checkbox"/> Certified copies of the priority documents have been received in Application No. <u>08/765,162</u> .		
3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).		
* See the attached detailed Office action for a list of the certified copies not received.		
14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).		
a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.		
15) <input checked="" type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.		
Attachment(s)		
1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)		
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____		
4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____		
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)		
6) <input type="checkbox"/> Other: _____		

Art Unit: 3713

DETAILED ACTION

The preliminary amendment filed on June 21, 2002 (paper No. 6) has been received and considered. By this amendment, claims 1-13 have been canceled, claims 14-90 have been added and claims 14-90 are now pending in the application.

Specification

- a) The updated status such as "now US. Patent No. ____" or "now abandoned" should be inserted to the patent applications in the "CROSS-REFERENCE TO RELATED APPLICATIONS" disclosed in the preliminary amendment page 3.
- b) The legal phraseology "said" in the abstract, lines 4-7, should be avoided.

Claim Objections

1. Claims 14, 23, 25-29, 31, 37, 40, 43, 46, 49, 52, 55, 58, 61, 64, 68-77, 81, 84, and 87-90 are objected to because of the following informalities:
 - a) In claim 14, lines 12-13, the claimed limitation "coded bits" should be corrected to "the coded bits".
 - b) In claim 23, line 1, the claimed limitation "said selection means include" should be corrected to "said selection means includes".
 - c) In claim 25, lines 1-2, the claimed limitation "said mathematical transformation means act" should be corrected to "said mathematical transformation means acts".

Art Unit: 3713

d) In claim 26, lines 4-6, the claimed limitation “assigning a determined frequency band ... in the determined frequency band” should be corrected to
“assingning a determined frequency band on which the OFDM signal will be transmitted; defining approximately orthogonal carrier frequencies in the determined frequency band;”

e) In claim 27, line 18, the claimed limitation “an extractor of at least one” should be corrected to “an extractor for extracting at least one”.

f) In claim 28, lines 2-3, the claimed limitation “the oscillation frequency” should be corrected to “an oscillation frequency”.

g) In claim 28, line 3, the claimed limitation “selected subbands” should be corrected to “the extracted subbands”.

h) In claim 29, lines 2-3, the claimed limitation “selected subband(s)” should be corrected to “extracted subbands”.

i) In claim 31, line 3; claim 37, line 3; claim 40, line 3; claim 43, line 3; claim 46, line 3; claim 49, line 3; claim 52, line 3; claim 55, line 3; claim 58, line 3; claim 61, line 3; claim 64, line 3; claim 68, line 3; claim 69, line 3; claim 70, line 3; claim 71, line 3; claim 72, line 3; claim 73, line 3; claim 74, line 3; claim 75, line 3; claim 76, line 3; claim 77, line 3; claim 81, line 3; claim 84, line 3; claims 87-90, line 3; the claimed limitation “said modulated OFDM signal” should be corrected to “a modulated OFDM signal”.

Art Unit: 3713

- j) In claim 40, line 12; claim 84, line 14; the claimed limitation “a frequency band” should be corrected to “the frequency band”.
- k) In claim 52, line 13; claim 55, line 13; claim 58, line 13; claim 61, line 13; claim 68, line 12; and claim 90, line 17, the claimed limitation “a receiver” should be corrected to “the receiver”.
- l) In claim 52, line 14; claim 55, line 13; claim 58, line 13; claim 61, line 13; and claim 90, line 18; the claimed limitation “OFDM modulated signal” should be corrected to “modulated OFDM signal”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2. Claims 22-25, 28-30, 37-39, 49-51, 58-60, 61-76, and 89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a) In claim 22, line 5; claim 24, line 4; claim 25, line 3; claim 29, line 3; claim 30, line 3; claim 58, line 14; claim 61, line 14; claim 75, line 14; claim 76, line 14; the claimed limitation “subband(s)” is ambiguous. Because it is not clear if the “subband(s)” should be interpreted as “subband” or “subbands”.

Art Unit: 3713

b) In claim 23, line 4; claim 28, line 3; claim 49, line 11; claim 58, line 14; claim 72, lines 11 and 13; claim 75, line 14; claim 89, line 13; the claimed limitation "and/or" is ambiguous. Because it is not clear if the "and/or" should be interpreted as "and" or "or".

c) In claim 37, line 11, the claimed limitation "the processing" lacks of antecedent basis. Further, it is not clear what process the "processing" implies.

d) In claim 58, line 15, the claimed limitation "they" is ambiguous. It is not clear what elements the pronoun "they" refers to.

e) In claim 64, line 1; claim 68, line 1; claim 69, line 1; claim 70, line 1; claim 71, line 1; claim 72, line 1; claims 73-76, line 1; the claimed limitation "A receiver of an OFDM signal transmitted to at least one receiver" does not seem accurate. Because the receiver is generally used to receive signals rather than to transmit signals. Further, the claimed does not claim any structure of the receiver.

f) Claims 23, 38-39, 50-51, 59-60, 61-63, and 65-67, are rejected as being dependent on the rejected base claim.

Double Patenting

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention,"

Art Unit: 3713

in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. Claims 14-26 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-6 and 8-14 of prior U.S. Patent No. 6,282,167. This is a double patenting rejection.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Art Unit: 3713

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 27-90 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,282,167. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 27-90 discloses the same inventive features of claims 1-13 of patent 6,282,167.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. ***Claims 14-20, 26-29, 31-35, 37-65, 68-79, and 81-90*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Floch et al (US. Patent No. 5,228,025) (hereinafter Le) in view of Marston (US. Patent No. 5,345,439).

a. As per claim 14, 17, 19-20, 26-29, 31, 34-35, 37, 40, 43, 46, 49, 52, 55, 58, 61, 64-65, 68-79, 81, 84, 87, and 88-90, Le teaches a method for transmitting and receiving an OFDM signal. The method comprises the steps of transmitting and receiving OFDM signal in a receiver (col. 2, lines 53-55); extracting and demodulating at least one but not all the frequency subbands

Art Unit: 3713

(col. 4, lines 59-64 and col. 8, lines 34-41). Le does not teach generating the OFDM signal. However, Marston teaches breaking down a frequency band into frequency subbands (col. 1, lines 41-42 and col. 2, lines 63-67), grouping the frequency subbands (col. 2, lines 39-41). Since Marston teaches an OFDM signal with a limited frequency band (col. 1, lines 41-42), Marston obviously teaches assigning a frequency band to the OFDM signal. Further, since Marston teaches modulating carrier frequencies of each frequency subband with a coded bit format independently with each other (col. 2, lines 65-67), Marston obviously teaches obtaining independent source signal, assigning each frequency subband to each source signal and modulating the carrier frequencies of each frequency subband with the corresponding source signal. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the method of generating a signal of Marston with the method of transmitting and receiving the OFDM signal of Le in order to create an OFDM signal which would be transmitted to a receiver.

b. As per claim 15, 18, 32-33, 38-39, 41-42, 44-45, 47-48, 50-51, 53-54, 56-57, 59-60, 62-63, 82-83, and 85-86, Le teaches the subbands are adjacent and the subbands have identical bandwidth (col. 4, lines 49-54).

c. As per claim 16, Le teaches an independent coding step 10 (Fig. 1) and frequency and time interlacing step 11 (Fig. 1) before grouping the subbands.

Art Unit: 3713

8. ***Claims 21-24, 36, 66-67, and 80*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Floch et al (US. Patent No. 5,228,025) (hereinafter Le) and Marston (US. Patent No. 5,345,439) in view of Pommier (US. Patent No. 4,884,139).

- a. As per claim 21, 36, 66, 67, and 80, Pommier teaches receivers which are capable of processing only the subband of the first source signal and receivers which are capable of processing the subbands of the first and second source signal (col. 1, lines 63-68 and col. 2, lines 1-26).
- b. As per claim 22, Pommier teaches selecting means 24 (Fig. 4) and mathematical transformation means 22 (Fig. 4).
- c. As per claim 23 and 28, Pommier teaches analog transposition means which includes RF oscillator 44 (Fig. 4) and an IF oscillator input of box 42 (Fig. 4). Pommier does not explicitly teach controlling oscillation means. However, since Pommier teaches supplying a signal at the central frequency (col. 7, lines 66-68), Pommier inherently teaches providing a controlling means to control the oscillator so that the oscillator provide central frequency signals.
- d. As per claim 24, Pommier teaches a selection means which comprises first analog transposition means 46a and 46b (Fig. 4). Pommier does not teach digital transposition means. However, Pommier teaches centralizing signal on a predetermined frequency, Pommier inherently provides a second transposition means to perform centralizing signal on a predetermined frequency. Further, the signal is a digital signal, the second transposition means must be a digital transposition means.

Art Unit: 3713

9. ***Claims 25 and 30*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Floch et al (US. Patent No. 5,228,025) (hereinafter Le), Marston (US. Patent No. 5,345,439) and Pommier (US. Patent No. 4,884,139) in view of Fattouche et al (US. Patent No. 5,282,222) (hereinafter Fattouche).

Fattouche teaches a mathematical transformation means which act on a number of carrier frequencies slightly exceeding the number of carrier frequencies contained in the extracted subband (Fig. 6b and Fig. 6c). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform FFT using carrier frequencies which are exceeding the carrier frequencies of the extracted subband taught by Fattouche on the transmitted signal taught by Le in order to prevent signal lost.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Nguyen whose telephone number is (703) 308-7915. The examiner can normally be reached on Monday-Thursday from 7:30AM to 5:30PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace, can be reached on (703) 308-4119. The fax phone number for this Group is (703) 872-9302.

Art Unit: 3713

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1148.



Kim Nguyen
April 25, 2003